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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/549,335	09/13/2005	Oug-Ki Lee	21CEN-006PUS	6732

22494 7590 02/08/2007
DALY, CROWLEY, MOFFORD & DURKEE, LLP
SUITE 301A
354A TURNPIKE STREET
CANTON, MA 02021-2714

EXAMINER

VAZQUEZ, ARLEEN M

ART UNIT	PAPER NUMBER
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2829

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/08/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/549,335

Applicant(s)

LEE ET AL.

Examiner

Arleen M. Vazquez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) 9-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09/13/2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 09/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Election

1. Applicant's election without traverse of Group of invention I, claims 1-8 in the reply filed on November 9, 2006 is acknowledged.
2. Claims 9-14 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on November 9, 2006.

Specification

3. The disclosure is objected to because of the following informalities:
In page 8 line 30 "--- main probes 75 and 75 ---" should be replace by "--- main probes 76 and 75---" to be consistent with the probes shown in Fig. 7c.
Appropriate correction is required.

Drawings

4. Figures 1 through 6b should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

5. Claims 5,7 and 8 are objected to because of the following informalities:

In claims 5 and 7, it is not clear how "the auxiliary probe is further fixedly attached to the other side of the probe" if is already attached to one side of the probe as stated on claims 4 and 6, respectively. Is the same auxiliary probe fixedly attached to both sides of the probe?

In claim 8, it is not clear how "the lengths of the horizontal section, the first vertical section and the second vertical section of the body part are changed"?

Substitution of the word "changed" in line 25 with –different—is suggested for clarity.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by **Das et al. (US 6,411,112)**.

As to claim 1, **Das et al.** discloses in Figures 1-6 a probe (20) having a prescribed thickness and formed in the shape of a fat plate, the probe (20) comprising a body part (24) bent at the middle thereof so that the body part is elastically tensioned or compressed when a tension force or a compression force is applied to the body part at

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the upper (end part of 24 where portion 26 starts) and lower ends (end part of 24 where portion 22 starts) thereof, a connection part (22) integrally formed with the lower end (end part of 24 where 22 starts) of the body part (24), the connection part (22) being fixed to a substrate (32), and a tip part (28) integrally formed with the upper end (end part of 24 where 26 starts) of the body part (24), the tip part (28) contacting a pad (40) of an element (44).

As to claim 2, *Das et al.* discloses in Figures 1-6 the body part (24) comprises a horizontal section (from the outmost side of the tip part 28 up to the outmost side of the connection part 22), a first vertical section (24) bent vertically downward from one end of the horizontal section, the first vertical section (24) being integrally connected to the connection part (22), and a second vertical section (26) bent vertically upward from the other end of the horizontal section, the second vertical section (26) being integrally connected to the tip part (28).

As to claim 3, *Das et al.* discloses in Figures 1-6 wherein the tip part (28) is formed such that the end of the tip part, contacting the pad (40) of the element (44), is disposed at the outermost side (29) of the probe (20) in the horizontal section.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

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applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1-3 are rejected under 35 U.S.C. 102(e) as being anticipated by **Cooper et al. (US 7,084,650)**.

As to claim 1, **Cooper et al.** discloses in Figures 1 and 2 a probe (16) having a prescribed thickness and formed in the shape of a fat plate, the probe (16) comprising a body part (20) bent at the middle thereof so that the body part is elastically tensioned or compressed when a tension force or a compression force (applied by 12,13 and 18) is applied to the body part (20) at the upper and lower ends thereof, a connection part (end part of 20 attach to 15) integrally formed with the lower end of the body part (20), the connection part (end part of 20 attach to 15) being fixed to a substrate (15), and a tip part (21) integrally formed with the upper end of the body part (20), the tip part (21) contacting a pad (19) of an element (11).

As to claim 2, **Cooper et al.** discloses in Figures 1 and 2 the body part (20) comprises a horizontal section (from the outmost side of the tip part 21 up to the outmost side of the connection part), a first vertical section (height of body part 20 from the connection part up to one end of the horizontal section) bent vertically downward from one end of the horizontal section, the first vertical section being integrally connected to the connection part (end part of 20 attach to 15), and a second vertical section (height of body part 20 from the tip part up to the other end of the horizontal section) bent vertically upward from the other end of the horizontal section, the second vertical section being integrally connected to the tip part (21).

As to claim 3, **Cooper et al.** discloses in Figures 1 and 2 wherein the tip part (21) is formed such that the end of the tip part, contacting the pad (19) of the element (11), is disposed at the outermost side of the probe (16) in the horizontal section.

10. Claim 8 is rejected under 35 U.S.C. 102(e) as being anticipated by **Kimoto et al.** (**US 6,847,221**).

As to claim 8, **Kimoto et al.** discloses in Figures 8-18 a probe card (185) including probes (112,212), each of the probes having a prescribed thickness and formed in the shape of a flat plate, wherein the probes (112,212) comprises a body part (15) bent at the middle thereof so that the body part is elastically tensioned or compressed when a tension force or a compression force (Col. 5 lns 26-32) is applied to the body part (15) at the upper and lower ends thereof, a connection part (portion from one end of 184 up to the start of portion 14) integrally formed with the lower end of the body part (15), the connection part being fixed to a substrate (184, as clearly shown in Fig. 18), and a tip part (13) integrally formed with the upper end of the body part (15), the tip part (13) contacting a pad (191) of an element (19), wherein the body part (15) comprises a horizontal section (from the outermost side of 15 up to tip or connection part), and a first vertical section (b) bent vertically upward from one end of the horizontal section, the first vertical section (b) being integrally connected to the tip part (13), a second vertical section (a) bent vertically downward from the other end of the horizontal section, the second vertical section (a) being integrally connected to the connection part (portion from one end of 184 up to the start of portion 14), wherein the lengths of the

horizontal section, the first vertical section, and the second vertical section of the body part are changed to form more than two kinds of probes (112,212 clearly shown in Fig.10), and wherein the more than two kinds of probes (112,212) are fixedly attached on the substrate of the probe card (184, as clearly shown in Fig. 18).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over ***Cooper et al. (US 7,084,650)*** in view of ***Wakamatsu (US 5,545,045)***.

As to claims 4-7, ***Cooper et al.*** discloses everything above except for an auxiliary probe having a prescribed thickness and formed in the shape of a flat plate, wherein the auxiliary probe comprises a body part identical to that of the probe, and a connection part identical to that of the probe and the auxiliary probe is not provided with a tip part identical to that of the probe, the auxiliary probe being fixedly attached to one side of the probe and further attached to the other side of the probe. However, ***Wakamatsu*** discloses in Figures 6-8 an auxiliary probe (probe with pin 2a) having a prescribed thickness and formed in the shape of a flat plate, wherein the auxiliary probe (probe with pin 2a) comprises a body part (bent portion) identical to that of the probe (probe with 2b pin), and a connection part (portion from one end of the body portion up

to the opposite end of 2a-1) identical to that of the probe (probe pin 2b) and the auxiliary probe is not provided with a tip part (2a and 2a-1) identical to that of the probe (probe with pin 2b), the auxiliary probe (probe with pin 2a) being fixedly attached (as clearly shown in Fig. 7) to one side of the probe (probe with 2b pin) and further attached to the other side of the probe (as shown in Fig. 7 and 8 more than one auxiliary probe is fixed to each side of the probe).

It would have been obvious for one ordinary skill in the art at the time the invention was made to modify the teachings of **Cooper et al.** by having an auxiliary probe with a different shape of tip as taught as **Wakamatsu** in order to allow same type of probe card be capable of testing different types of elements with different configurations making more cost-efficient the manufacturing of this type of probe card.

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Mizuta (US 6,242,929) discloses a "Probe needle for vertical needle type probe card and fabrication thereof".

Schmid et al. (US 6,150,830) discloses a "Test Head for microstructures with interface".


Conclusion

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arleen M. Vazquez whose telephone number is 571-272-2619. The examiner can normally be reached on Monday to Friday, 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ha Nguyen can be reached on 571-272-1678. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AMV


VINH NGUYEN
PRIMARY EXAMINER
A.u. 2829
02/05/07